thousand masons of this country and century have yet to be rallied into the defensive against the aggressions of age, sickness, accident, and the like, for which the league of Freemasonry once in another age, but in this same, as well as in every civilized country, so amply and liberally provided.

Sixty thousand masons, at the least computation, are gathered and scattered over the face of these islands. Their unions and clubs have given expression to many of the requirements of the times, and, effectively or not is no matter, have done their best to meet them. They have been the best, because the only provision; and pray who is to blame if we have nothing better? Let the titled, the privileged, the wealthy, and the educated, look to it. Do they throw the men, heedless of their happiness and comfort, on their own resources? Oh! we are afraid they do! and then we hear the cant of "*disordered*" and "*violent*" and "*turbulent*." Well, after all, perhaps, there is not much of special blame for the time past, but there would be for that which is to come, if provision were not to be made, and if the leaders of the people were not to take a lead in it. We are confident, however, that it will be done, and done as speedily as so much work may admit of; but the impetus must be given and the work must begin amongst the workmen themselves.

It would be easy to shew how all could be accomplished, how the means reside in the hands of the masons themselves; how of the three or four months they are now compelled to waste, a portion could be turned to a fund of work in the erection of a masons' college or many colleges; how many things could be gathered, and accumulated, and stored, for the common wealth of masonry; but it is not so easy to shew how the reasoning would be attended to. This is the first step, and, like most other first steps, the only difficulty. Sixty thousand masons could give a week's work each if they willed it, and this would not be less than sixty thousand pounds; but who would haul into the ears of unwilling listeners? Let them take the hint. One thing they have now to favour them which they never had before, an organ of instant, constant, central, and wide-spreading information. THE BUILDER is at their service. This is the first element of success, let us see how it may be used.

METALLIC CEMENT.

This is the age of cements! and that which is a merit of the age in our opinion is handled by many in the way of reproach, as if a good fictitious stone were not better than a bad natural one; the combination of the elements or constituents of stone, after the fashion of Nature's own working, and selecting for such combination the best constituents, a better choice than to take this or that natural product, just as it may offer, and to prefer it simply because it is natural. But here, again, the non-reflecting mind commits an error; natural products are those produced under the operation of Nature's laws, and whether it be stone in the quarry, the brick of clay passing through the laboratory of the kiln, or the union by their natural affinities of particles of lime and particles of sand to form one coherent mass, the same NATURE has regulated the formation and production, and art is most in accordance with truth when she works obediently and diligently under the dictates of her laws. Men make large concretions of brick, and stone, and mortar, and call them edifices; so, in like manner, they make concretions of parts of those edifices, or select a ready-made concretion; now the judgment with which the selection is made, and the materials are applied, determines the question of superior or inferior art, and the worker in cement may be much the greater and the more gifted artist than the operator in stone or wood; the former begins his operations, and trains or moulds the raw material according to his taste, at an earlier stage, or under conditions involving more of acquaintance with primitive natural laws than the latter; so we say the former *may be* much the greater artist, we do not say that he *always is* so.

But it will be beside our purpose to engage in a disquisition on the proper application of cement in this article; our object now is to shew to our building friends what are the peculiar properties or characteristics of another description of cement which has for some time *been in the market*, as the phrase goes: we have been interrupted by press of matter and other avocations from continuing our notices of each variety, and, indeed, we cannot hope to pursue any one branch, such, for instance, as that of cement, consecutively; our plan is better pointed out to us by the natural order of our working, and to this order we must be obedient.

Metallic cement, as it is termed, is that to which our attention is now directed—but the term is somewhat of a *misnomer*, the material sold under this name being a metallic sand or powder, coarse or fine as it may be required—which is to be mixed up with lime, with which it forms what may be designated a metallic cement; the epithet metallic, in such case, is aptly chosen, for it is the metallic constituent that gives the peculiar value to the cement, and a most valuable cement it appears to be, not only for joining brick and stone together in the ordinary manner, and for concretes for foundations, but for coating and facing and for moulding in the solid.

By the way, we cannot forbear putting in a query for the solution of the indiscriminate objectors to the use of cement, whose best argument against it is that it is *sham* and *mockery*. What do they say to the "*sham*" of an artificial stone foundation—a concrete to emulate the rock, a cheap—for *cheap* is another term of objection—a cheap substitute for blocks of granite, or other huge masses of stone, and their being locked together? Cement must be combated or opposed by better arguments than these, otherwise all art must fall, and the most favoured materials of the anti-cement men suffer in the debate on the properties of application.

For a concrete this metallic cement has extraordinary merits. It was used in the foundation of the new Houses of Parliament, and at the great tunnels of the Birmingham railroad. One measure of the metallic sand, one of lime, and six of gravel are the proportions recommended. We have observed it used for the concrete foundation of wood-pavements—for the road in fact to which the wood seems to be the casing—and it acquires a firmness and tenacity unexampled, so hard almost as a vitrified mass; indeed, we have heard that the proportions of the metallic sand have undergone a reduction in subsequent cases, the concrete having become so hard as almost to defy breaking into in the case of requiring to work at the gas and water pipes. We dare say that the dampening of the concrete would somewhat favour the hardening, as a slight oxidation of the metallic particles would take place, and thus knit and lock together where there might exist a deficiency of other cohesive agents.

We are the more inclined to this opinion from what we have seen of a rough cylindrical article made of the cement we are now describing. It has been used for a long time as a water-vessel, and exposed to wet and frost and all weathers: it is not more than an inch thick, yet it stands the test, and has been knocked about and carelessly used; cast-iron itself could hardly have withstood more.

As a material for constructing troughs and cisterns, it is therefore very valuable. Malt-house steeping-troughs have been made of it, and malt-house floors; in this latter respect, indeed, and for floors generally, it is equally available. We have seen specimens polished up to the highest and finest surface, and as hard as marble.

For exterior casings, as stucco, we have two very fine instances in the city—one at 57, Coleman-street; the other, the Alfred Insurance Office, Lothbury. Here it is used in combination with stone dressings, and in imitation of stone; and whether we would defend the principle of imitation or not, we must subscribe to the admission of its successful exterior emulation—the ornaments, such as modillions, trusses, balusters, pierced parapets, are wrought in it, and have a character and promise of durability which stone itself could not farther boast of.

Capitals, delicate capitals of columns, are exquisitely produced in it; and here we have to note a remarkable condition required in the working of it:—the sand and lime are to be used almost dry—not more moistened, in fact, than the ordinary state in which we find moist sugar—it is pressed into the mould, or slightly punched in by a small hand pestle, and soon acquires the necessary hardness and intimate junction to be turned out a stone.

STONE *is a* CEMENT? but we use the words stone and cement to denote the different conditions under which the two are produced:—one by the slow process of growth in the mine, the other by a similar but hastened process in the laboratory of art. Who shall say that we cannot produce blocks of the supremest marble in this way? and who will then determine, and upon what grounds, the superiority?

Blue lias lime is to be preferred in using up with this metallic sand, and it is a valuable condition of it, that the sand alone has to be transported to the hands of the consumer; whereas, with Roman cement, the whole admixture, or that which exposure and lapse of time will damage, must be barrelled up.

Many instances of the application of the cement may be referred to, but the most valuable one in our estimation is at Herne Bay, where a small marine turret, or "*look-out*," has been stuccoed with it for ten years, and is now, we are informed, harder than ever. The Earl of Egremont's mansion, at Silverton Park, near Exeter, an immense building, covering, as it is said, an acre of ground, has been in process of re-modelling, under the use of this material, for the last four years—a large number of fluted capitals of columns, and an interminable line of ornament, are being done in it—these furnish the best arguments or test of quality and fitness; but it was not exposed to them before every proper experiment had been tried on a smaller scale, so as to satisfy the architect as to the responsibility he ran in recommending it.

A new market-place for the district of St. Philip's, Bristol, is proposed to be erected.